spring-mount **30** respectively welded thereto. These end plates **28** are then welded to each end of the tubular cross-member **32**, with use of a fixture during the welding process facilitating correct alignment of the spring-mounts to obtain the desired spring angle when the support structure **14** is assembled with the conveyor trough.

During assembly, openings through which the spring-mounts **30** extend, and openings for the mechanical fasteners (four for each end plate **28** in the illustrated embodiment) are cut in the web portion of each longitudinally extending base member **24**. Each of the cross-member assemblies can then be bolted in place, with any additional welding effected, as required. As will be appreciated, this configuration results in distribution of the spring loads through the end plate **28** of the cross-member assembly, and through the bolted connections into the web portion of the base member **24**. This configuration desirably avoids the effect of welded "scab" plates as heretofore known, which welding frequently creates sufficient heat to warp the support structure, undesirably requiring subsequent straightening of the structure.

From the foregoing, it will be observed that numerous modifications and variations can be effected without departing from the true spirit and scope of the novel concept of the present invention. It is to be understood that no limitation with respect to the specific embodiment illustrated herein is intended or should be inferred. The disclosure is intended to cover, by the appended claims, all such modifications as fall within the scope of the claims.

What is claimed is:

1. A vibratory conveyor comprising:

an elongated conveyor trough along which material is conveyed;

an elongated support structure extending generally beneath said conveyor bed; and

a plurality of springs operatively connecting said conveyor bed to said support structure;

said support structure comprising a pair of laterally spaced, longitudinally extending base members, and a plurality of transversely extending spring-mount cross-member assemblies for connecting said springs to said base members,

each said spring-mount cross-member assemblies comprising a pair of end plates respectively connected to said pair of base members, a pair of spring-mounts respectively mounted on said end plates for respective mounting of a pair of said springs thereto, and a cross-member joined to and extending between said end plates, to thereby facilitate operative connection of said springs to said base members while enhancing the structural integrity of said support structure.

2. A vibratory conveyor in accordance with claim **1**, wherein

each of said end plates is connected to an inwardly facing surface of the respective one of said base members, each of said spring-mounts extending through an opening in the respective one of said base members.

3. A vibratory conveyor in accordance with claim **1**, wherein

said cross-member of each said cross-member assembly comprises a tubular member.

4. A vibratory conveyor in accordance with claim **3**, wherein

said tubular member has a generally circular cross-sectional configuration and includes a welded, overlapping seam portion.

5. A vibratory conveyor in accordance with claim **2**, wherein

each of said end plates of each of said cross-member assemblies is connected to the respective one of said base members by a plurality of mechanical fasteners.

6. A vibratory conveyor comprising:

an elongated conveyor trough along which material is conveyed;

an elongated support structure extending generally beneath said conveyor bed; and

a plurality of springs operatively connecting said conveyor bed to said support structure,

said support structure comprising a pair of laterally spaced, longitudinally extending base members each having an inwardly open channel-like configuration including a web portion and upper and lower flange portions, said support structure further comprising a plurality of transversely extending spring-mount cross-member assemblies for connecting said springs to said base members,

each of said spring-mount cross-member assemblies comprising a pair of end plates respectively connected to an inside surface of said web portions of said pair of base members, and a pair of spring-mounts respectively mounted on said end plates for respective mounting of a pair of said springs thereto, each said spring-mount extending through an opening in the respective one of said base members, each said cross-member assembly further comprising a tubular cross-member joined to and extending between said end plates, to thereby facilitate operative connection of said springs to said base members while enhancing the structural integrity of said support structure.

7. A vibratory conveyor in accordance with claim **6**, wherein

said tubular cross-member of each said cross-member assembly has a generally circular cross-section configuration and includes a welded, overlapping seam portion.

8. A vibratory conveyor in accordance with claim **6**, wherein

each of said end plates of each of said cross-member assemblies is generally rectangular and is connected to the web portion of the respective one of said base members by a plurality of mechanical fasteners.

9. A vibratory conveyor in accordance with claim **6**, wherein

each of said springs comprise a leaf spring.

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